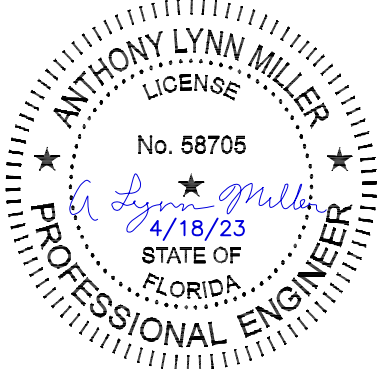




HR910V HORIZONTAL ROLLER WINDOW,
LM/SM IMPACT RESISTANT,
FLANGE, EQUAL-LEG & FIN FRAMES

DP RATING	LARGE & SMALL MISSILE IMPACT RESISTANT
SEE TABLES 1 & 2	



A. LYNN MILLER, P.E., P.E.# 58705

- 1) THIS PRODUCT HAS BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, EXCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).
- 2) SHUTTERS ARE NOT REQUIRED WHEN USED IN WIND-BORNE DEBRIS REGIONS.
- 3) MASONRY ANCHORS MAY BE USED INTO WOOD. ALL WOOD BUCKS LESS THAN 1-1/2" THICK ARE TO BE CONSIDERED 1X INSTALLATIONS. 1X WOOD BUCKS ARE OPTIONAL IF UNIT IS INSTALLED DIRECTLY TO SUBSTRATE. WOOD BUCKS DEPICTED AS 2X ARE 1-1/2" THICK OR GREATER.
- 4) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. USE ANCHORS OF SUFFICIENT LENGTH.
- 5) MAX. 1/4" SHIMS ARE REQUIRED AT EACH ANCHOR LOCATION WHERE THE PRODUCT IS NOT FLUSH TO THE SUBSTRATE. USE SHIMS CAPABLE OF TRANSFERRING APPLIED LOADS.
- 6) THE ANCHORAGE METHODS SHOWN HAVE BEEN DESIGNED TO RESIST THE WIND LOADS CORRESPONDING TO THE REQUIRED DESIGN PRESSURE. THE 33-1/3% STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. THE 1.6 LOAD DURATION FACTOR WAS USED FOR THE EVALUATION OF ANCHORS INTO WOOD. ANCHORS THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE FOR CORROSION RESISTANCE.

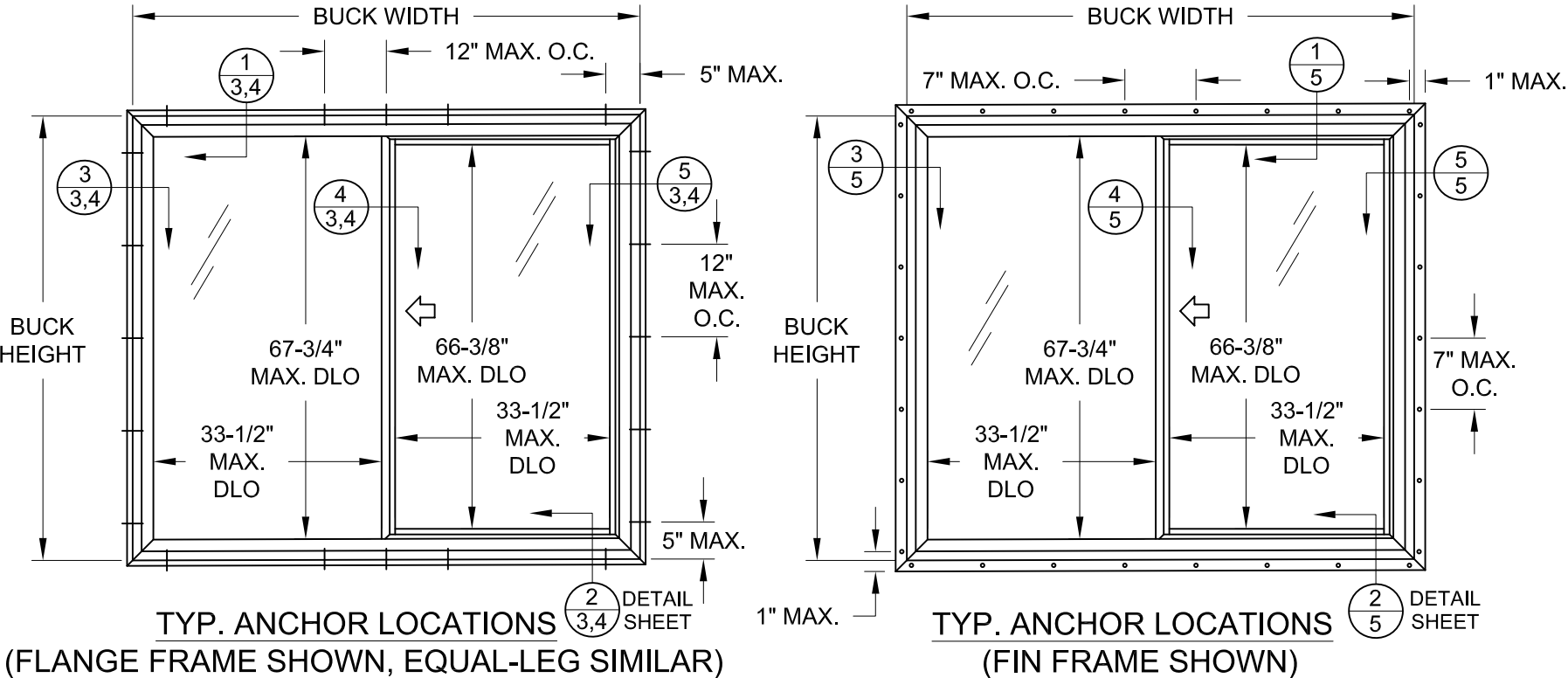


TABLE 1: DESIGN PRESSURES

Buck Width	Buck Height	Configuration	Impact Level	Frame Type	Glass Types	Design Pressure	
						(+) psf	(-) psf
74"	63"	XO/OX	LM/SM	All	1 or 2	50.0	60.0
74"	72"	XO/OX	LM/SM	Flange, Equal-Leg	1 or 2	45.0	50.0

1) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION.
2) FOR GLASS TYPES, SEE SHEET 7.

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HR910V HORIZONTAL ROLLER, LMI

GENERAL NOTES, XO DESIGN
PRESSURES & ANCHOR ELEVATION

CGI WINDOWS & DOORS
3780 W. 104TH STREET
HIALEAH, FL 33018

BY:

REVISION:

DATE:

#:

DATE: 04/17/2023

SCALE: NTS

BY: LOGAN YODER

DRAWING # :
HR910V-FPA-LM

SHEET: 1 OF 6

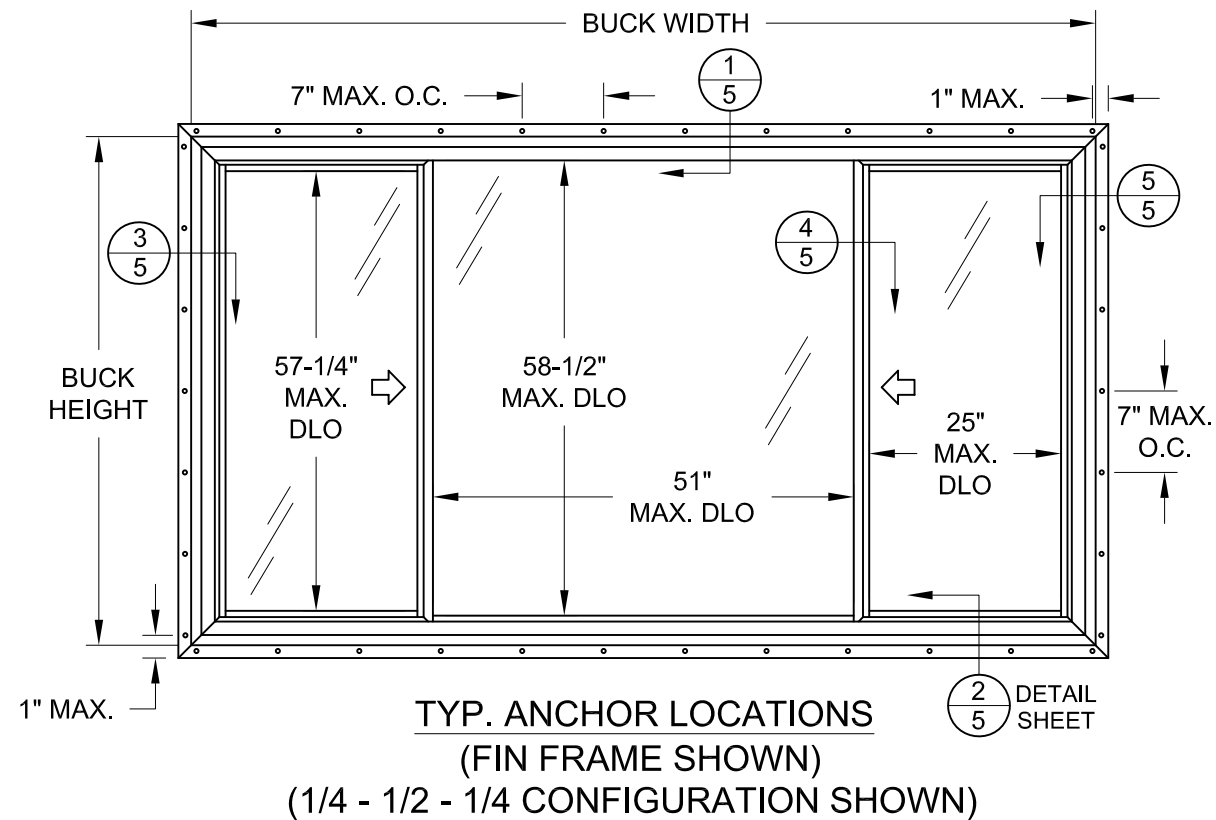
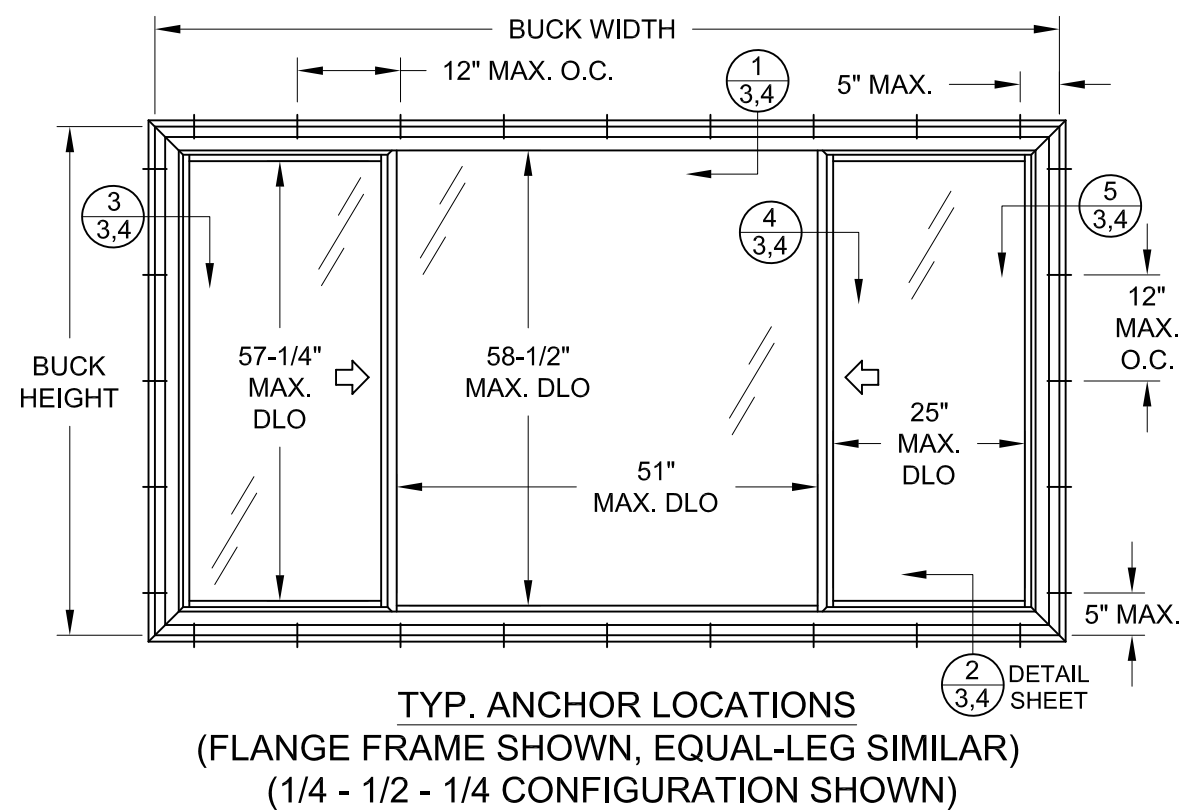


TABLE 2: XOX DESIGN PRESSURES

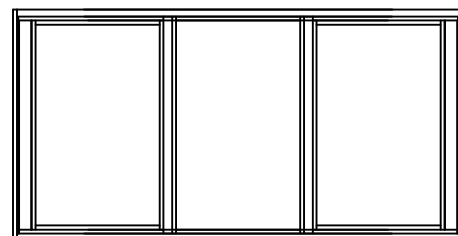
Buck Width	Buck Height	Configuration	Impact Level	Frame Type	Glass Types	Design Pressure	
						(+) psf	(-) psf
82-7/8"	63"	1/3 - 1/3 - 1/3 XOX	LM/SM	All	1, 2, 3 or 4 (operable) 3 or 4 (fixed lite)	50.0	55.0
111"	63"	1/4 - 1/2 - 1/4 XOX	LM/SM	All	1, 2, 3 or 4 (operable) 4 (fixed lite)	50.0	55.0
111"	63"	1/4 - 1/2 - 1/4 XOX	LM/SM	All	1, 2, 3 or 4 (operable) 3 (fixed lite)	See Table 2A	

- 1) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION.
2) FOR GLASS DESCRIPTIONS, SEE SHEET 7.

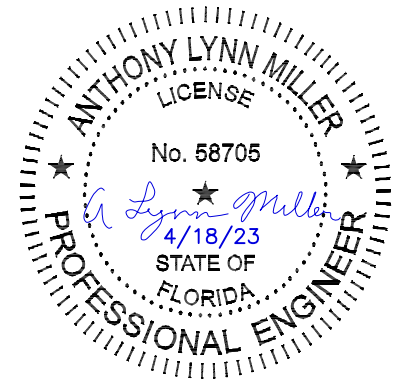
TABLE 2A:

Design Pressure		XOX 1/4 - 1/2 - 1/4 using Glass Types 3 at Fixed Lite					
		Width					
		60"	72"	84"	96"	108"	111"
Height	36"	+50/-55	+50/-55	+50/-55	+50/-55	+50/-55	+50/-55
	48"	+50/-55	+50/-55	+50/-55	+50/-55	+50/-55	+50/-55
	54"	+50/-55	+50/-55	+50/-55	+50/-55	+50/-55	+50/-55
	60"	+50/-55	+50/-55	+50/-55	+50/-55	+50.0/-52.9	+50.0/-52.2
	63"	+50/-55	+50/-55	+50/-55	+50.0/-54.2	+50.0/-50.4	+/-49.6

- 1) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION.
2) FOR GLASS DESCRIPTIONS, SEE SHEET 7.



WINDOW MAY BE A 1/4 - 1/2 - 1/4 CONFIGURATION (AS SHOWN ABOVE), OR 1/3 - 1/3 - 1/3 CONFIGURATION (AS SHOWN TO THE LEFT) PROVIDED DLO (DAYLITE OPENING) SIZES ARE NOT EXCEEDED.



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HR910V HORIZONTAL ROLLER, LMI

GENERAL NOTES, XOX DESIGN
PRESSURES & ANCHOR ELEVATION

CGI WINDOWS & DOORS
3780 W. 104TH STREET
HIALEAH, FL 33018

BY:

REVISION:

DATE:

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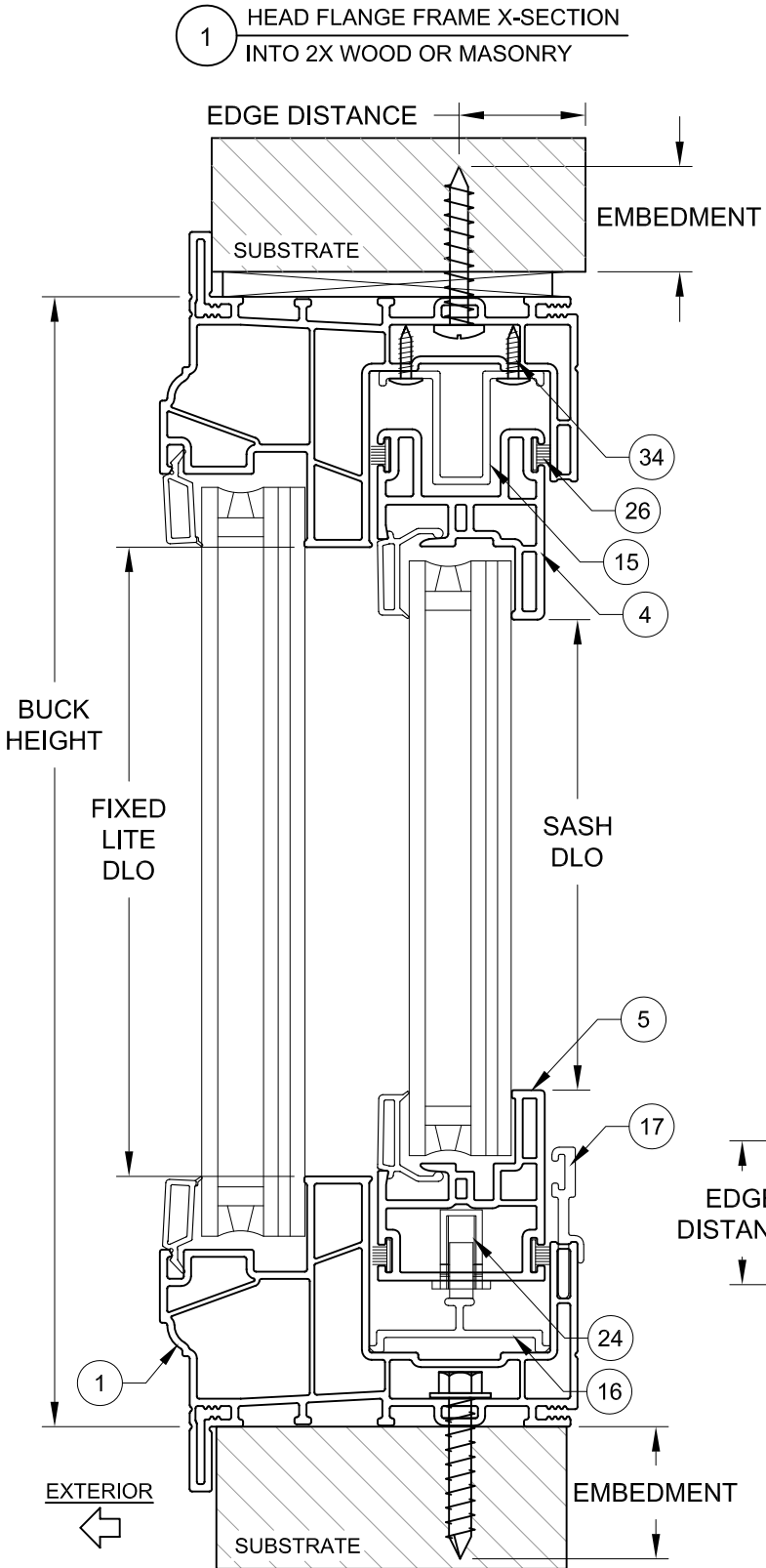
DATE: 04/17/2023

SCALE: NTS

BY: LOGAN YODER

DRAWING # :
HR910V-FPA-LM

SHEET: 2 OF 6



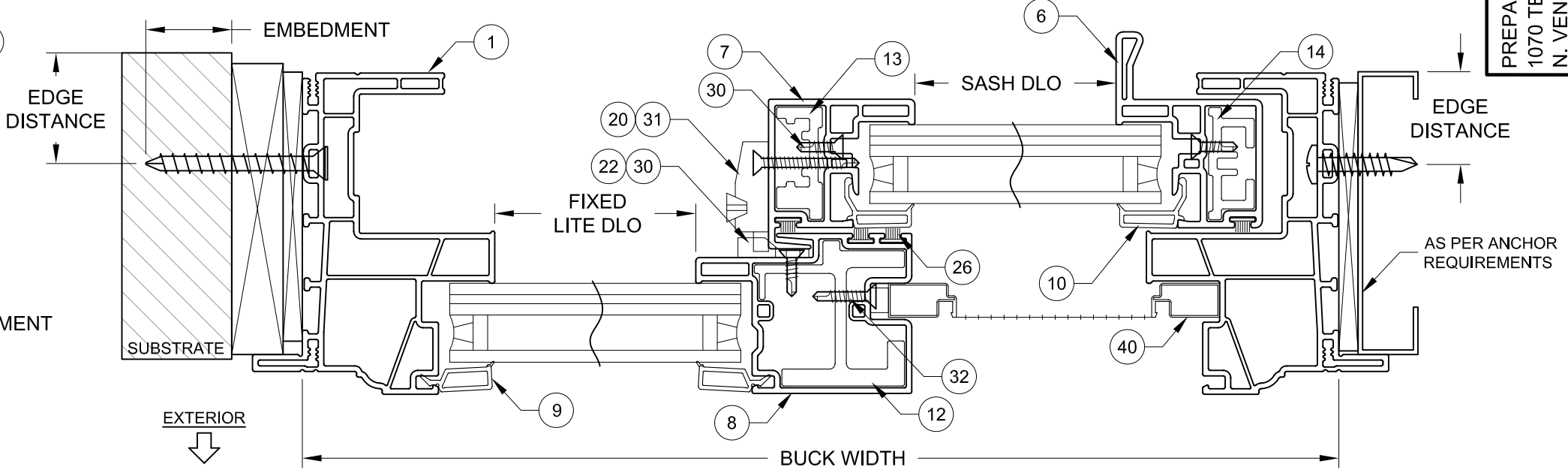
2 SILL FLANGE FRAME X-SECTION INTO 2X WOOD OR MASONRY

TABLE 3: INSTALLATION ANCHORS

Anchor	Substrate	Minimum Edge Distance	Minimum Embedment
#10 or #12 Steel or 410 SS Screw	Southern Pine (SG = .55)	9/16"	1-3/8"
	Aluminum, 6063-T5 min.	3/8"	0.050"
	Steel Stud, Gr. 33 min.	3/8"	0.045" (20 Ga)
	A36 Steel	3/8"	0.050"
3/16" Steel Ultracon+	Concrete (min. 2.9 ksi)	1"	1-3/4"
	UngROUTED CMU, (ASTM C-90)	1"	1-1/4"
	Southern Pine (SG = .55)	1"	1-3/8"
1/4" Steel Ultracon+	Concrete (min. 3.0 ksi)	1"	1-3/8"
	UngROUTED CMU, (ASTM C-90)	1"	1-1/4"
	Southern Pine (SG = .55)	1"	1-3/8"

- 1) ANCHOR MUST EXTEND A MINIMUM OF 3 THREADS BEYOND ANY METAL SUBSTRATE.
2) "UNGROUTED CMU" VALUES MAY BE USED FOR GROUTED CMU APPLICATIONS.
3) ALL ANCHOR HEAD TYPES ARE APPLICABLE.

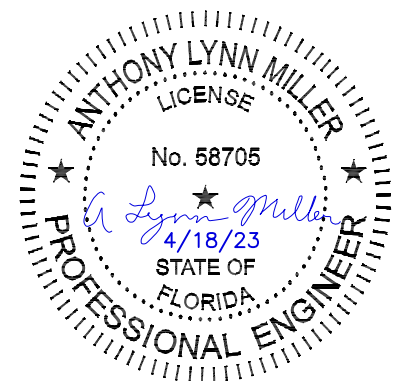
INSTALLATION NOTES:
1) SEE SHEET 1 FOR ANCHOR SPACING REQUIREMENTS.
2) ANY INSTALLATION OPTION SHOWN (2X BUCK OR WOOD FRAMING, 1X BUCK, DIRECT TO MASONRY, STEEL STUD) MAY BE USED ON ANY SIDE OF THE WINDOW.
3) USE ONLY SUBSTRATE APPROPRIATE ANCHORS LISTED IN ANCHOR TABLE 3. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS. MAX. SHIM THICKNESS TO BE 1/4".



3 JAMB FLANGE FRAME X-SECTION THRU 1X INTO 2X WOOD OR MASONRY

4 MEETING RAIL X-SECTION SHOWN FOR OX CONFIGURATION (XOX SIMILAR)

5 JAMB FLANGE FRAME X-SECTION USING SCREWS INTO METAL



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HR910V HORIZONTAL ROLLER, LMI
FLANGE INSTALLATION & ANCHOR TYPES
CGI WINDOWS & DOORS
3780 W. 104TH STREET
HIALEAH, FL 33018

REVISION:				
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DATE: 04/17/2023				
SCALE: NTS				
BY: LOGAN YODER				
DRAWING #: HR910V-FPA-LM				
SHEET: 3 OF 6				

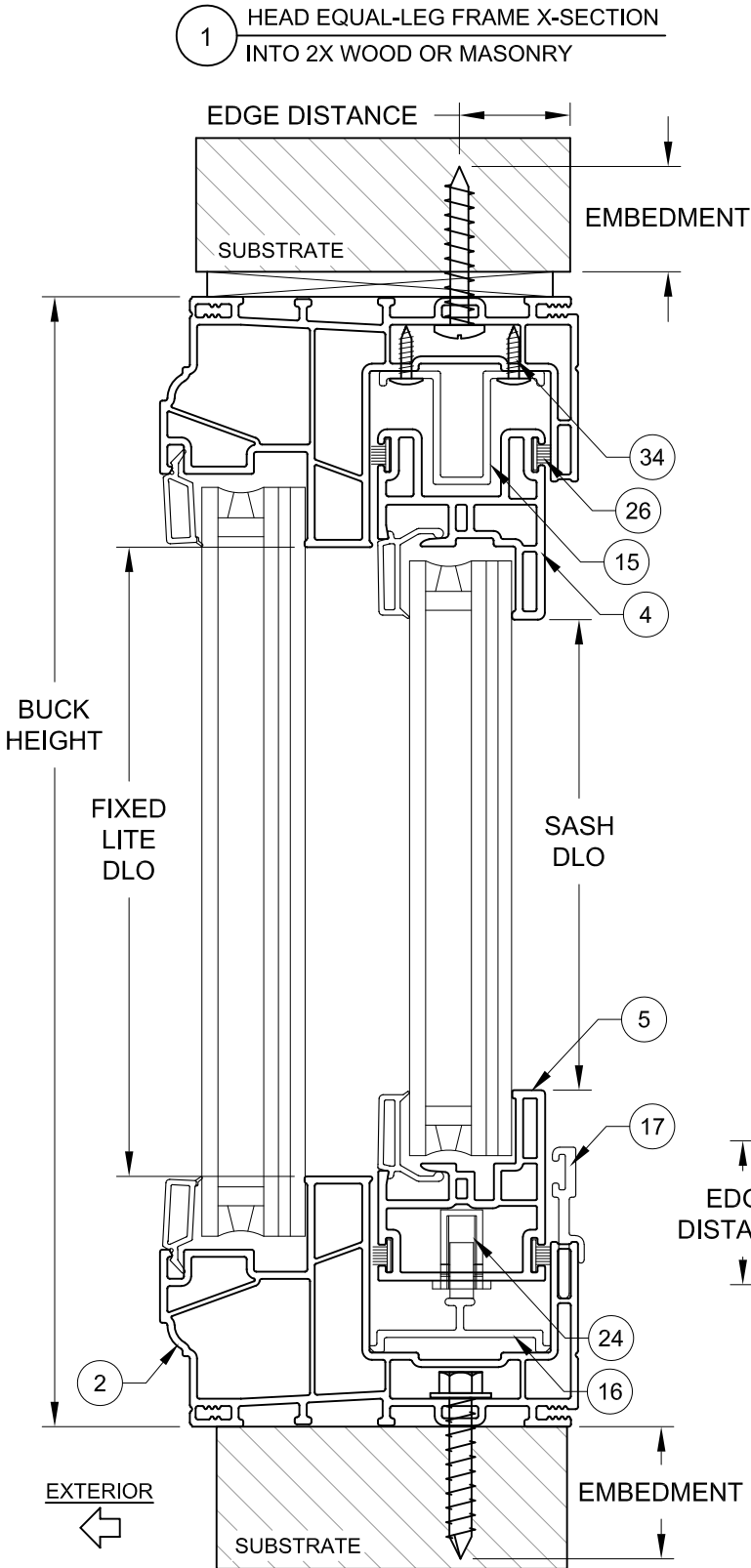


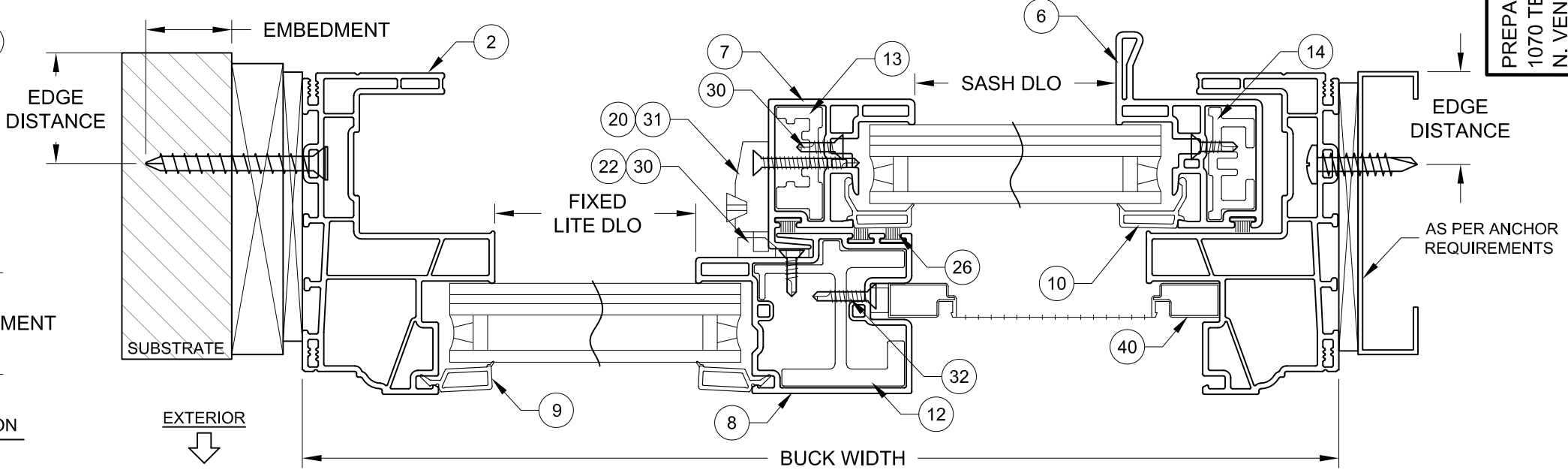
TABLE 4: INSTALLATION ANCHORS

Anchor	Substrate	Minimum Edge Distance	Minimum Embedment
#10 or #12 Steel or 410 SS Screw	Southern Pine (SG = .55)	9/16"	1-3/8"
	Aluminum, 6063-T5 min.	3/8"	0.050"
	Steel Stud, Gr. 33 min.	3/8"	0.045" (20 Ga)
	A36 Steel	3/8"	0.050"
3/16" Steel Ultracon+	Concrete (min. 2.9 ksi)	1"	1-3/4"
	UngROUTED CMU, (ASTM C-90)	1"	1-1/4"
	Southern Pine (SG = .55)	1"	1-3/8"
1/4" Steel Ultracon+	Concrete (min. 3.0 ksi)	1"	1-3/8"
	UngROUTED CMU, (ASTM C-90)	1"	1-1/4"
	Southern Pine (SG = .55)	1"	1-3/8"

- 1) ANCHOR MUST EXTEND A MINIMUM OF 3 THREADS BEYOND ANY METAL SUBSTRATE.
2) "UNGROUTED CMU" VALUES MAY BE USED FOR GROUTED CMU APPLICATIONS.
3) ALL ANCHOR HEAD TYPES ARE APPLICABLE.

INSTALLATION NOTES:
1) SEE SHEET 1 FOR ANCHOR SPACING REQUIREMENTS.
2) ANY INSTALLATION OPTION SHOWN (2X BUCK OR WOOD FRAMING, 1X BUCK, DIRECT TO MASONRY, STEEL STUD) MAY BE USED ON ANY SIDE OF THE WINDOW.
3) USE ONLY SUBSTRATE APPROPRIATE ANCHORS LISTED IN ANCHOR TABLE 4. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS. MAX. SHIM THICKNESS TO BE 1/4".

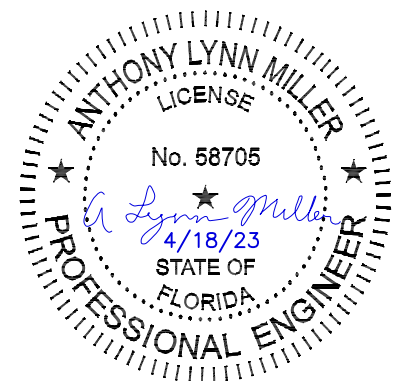
2 SILL EQUAL-LEG FRAME X-SECTION INTO 2X WOOD OR MASONRY



3 JAMB EQUAL-LEG FRAME X-SECTION THRU 1X INTO 2X WOOD OR MASONRY

4 MEETING RAIL X-SECTION SHOWN FOR OX CONFIGURATION (XOX SIMILAR)

5 JAMB EQUAL-LEG FRAME X-SECTION USING SCREWS INTO METAL



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PREPARED BY: A. LYNN MILLER, P.E. 1070 TECHNOLOGY DR N. VENICE, FL 34275 (941)-480-1600	BY:
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SCALE: NTS	DATE:
BY: LOGAN YODER	#:
DRAWING #: HR910V-FPA-LM	
SHEET: 4 OF 6	

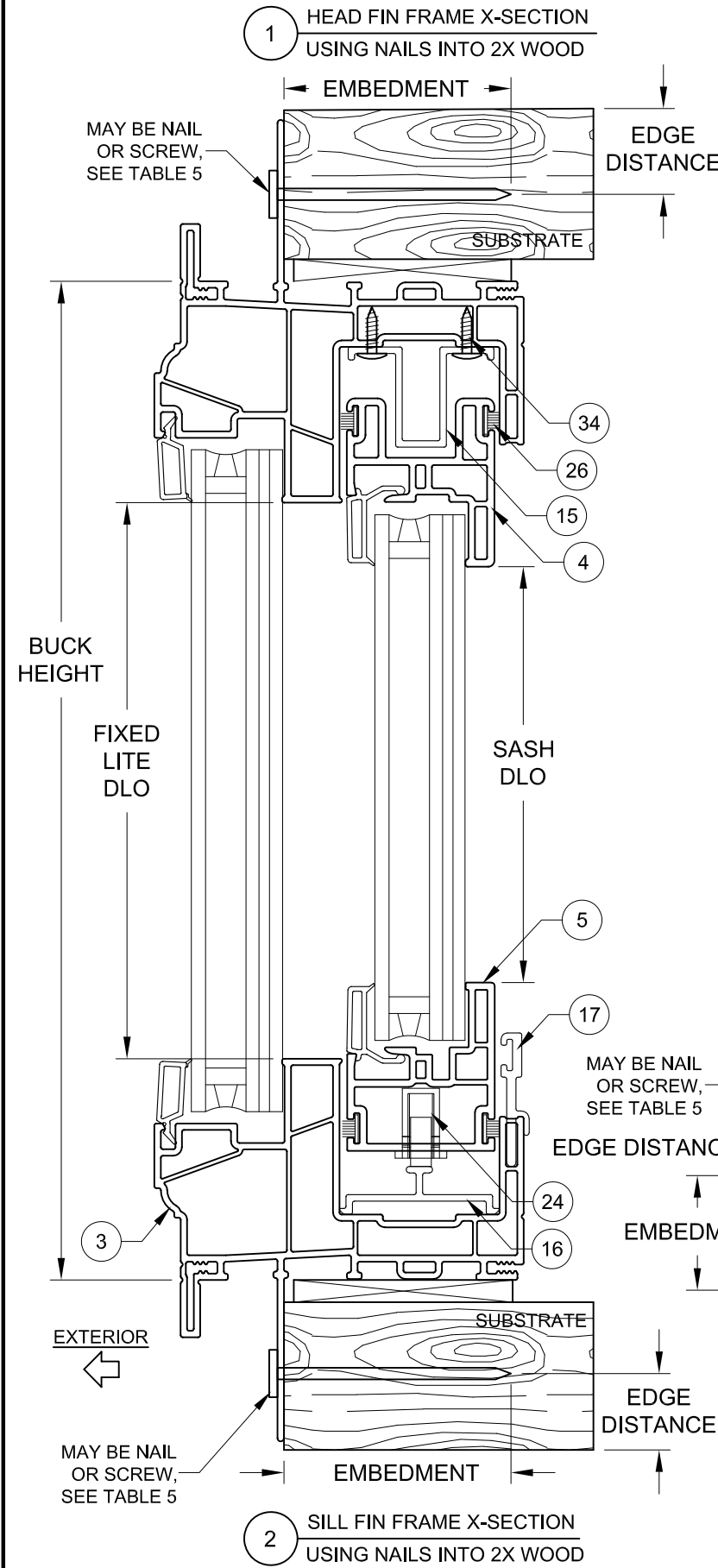


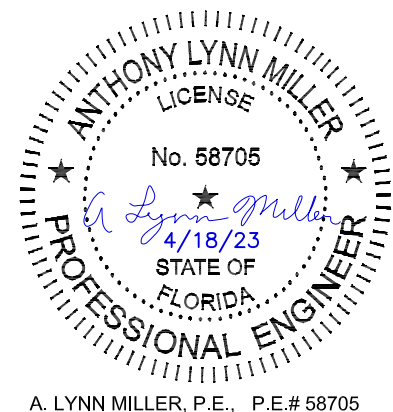
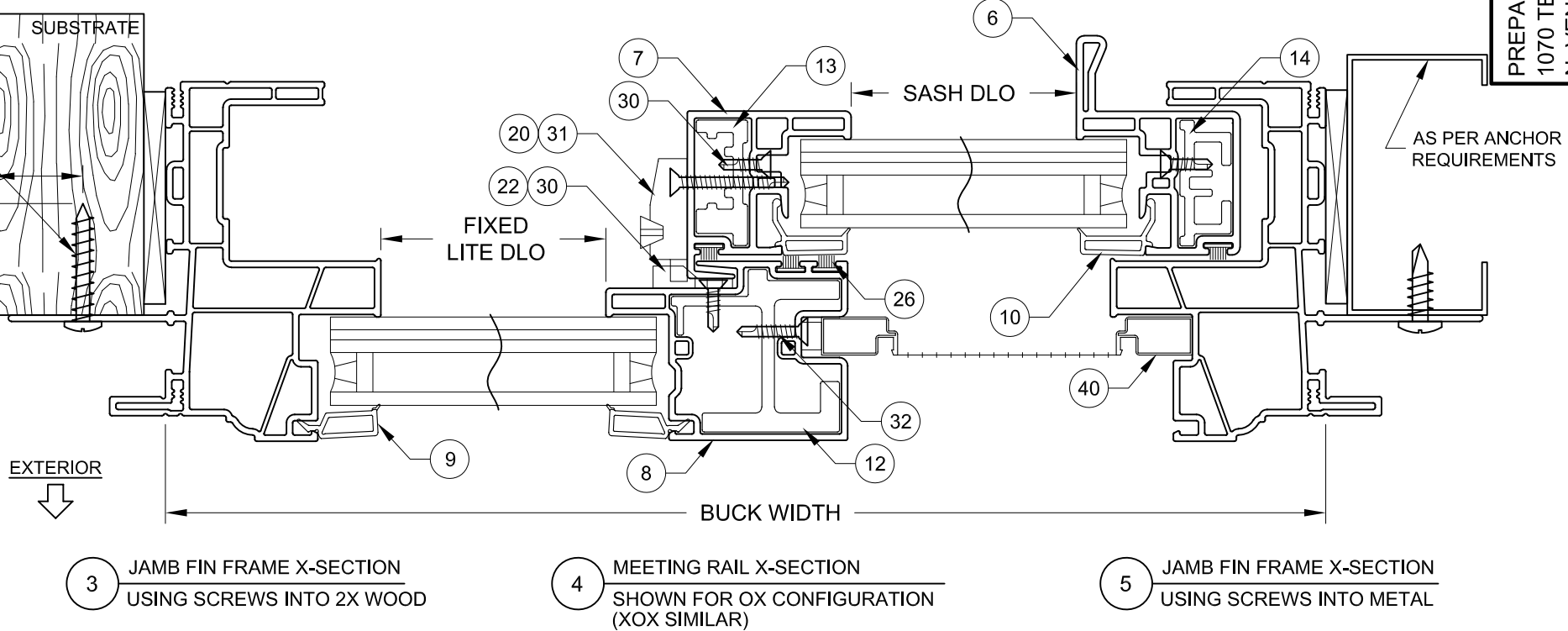
TABLE 5: INSTALLATION ANCHORS

Anchor	Substrate	Min. Edge Distance	Min. Embedment
2-1/2" x .113" Box Nail	P.T. Southern Pine (SG = .55)	5/16"	2-7/16"
2-1/2" x .131" Common Nail	P.T. Southern Pine (SG = .55)	3/8"	2-7/16"
2-1/2" x .145" Roofing Nail	P.T. Southern Pine (SG = .55)	3/8"	2-7/16"
#10 Steel SMS	P.T. Southern Pine (SG = .55)	1/2"	1-3/8"
	Aluminum, 6063-T5 min.	3/8"	1/8"
	Steel Stud, Gr. 33 min.	3/8"	0.036
	A36 Steel	3/8"	1/8"

- 1) ANCHOR MUST EXTEND A MINIMUM OF 3 THREADS BEYOND ANY METAL SUBSTRATE.
2) ALL ANCHOR HEAD TYPES ARE APPLICABLE.

INSTALLATION NOTES:

- 1) SEE SHEET 1 FOR SPACING REQUIREMENTS.
2) FLANGE AND/OR FIN MAY BE REMOVED TO CREATE OTHER FRAME TYPES.
3) USE ONLY SUBSTRATE APPROPRIATE ANCHORS LISTED IN ANCHOR TABLE 5. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS. ANY INSTALLATION OPTION SHOWN MAY BE USED ON ANY OR ALL SIDES OF THE WINDOW.
4) MAX. SHIM THICKNESS TO BE 1/4". MAX. SHIM SPACING TO BE 18".



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HR910V HORIZONTAL ROLLER, LMI

FIN INSTALLATION & ANCHOR TYPES

CGI WINDOWS & DOORS
3780 W. 104TH STREET
HIALEAH, FL 33018

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BY: LOGAN YODER				
DRAWING #: HR910V-FPA-LM				
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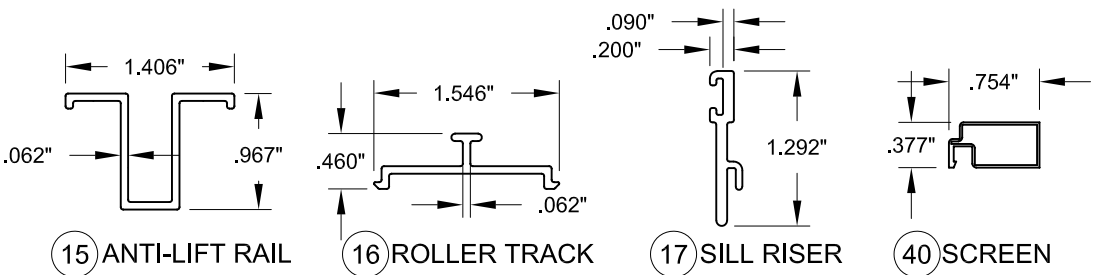
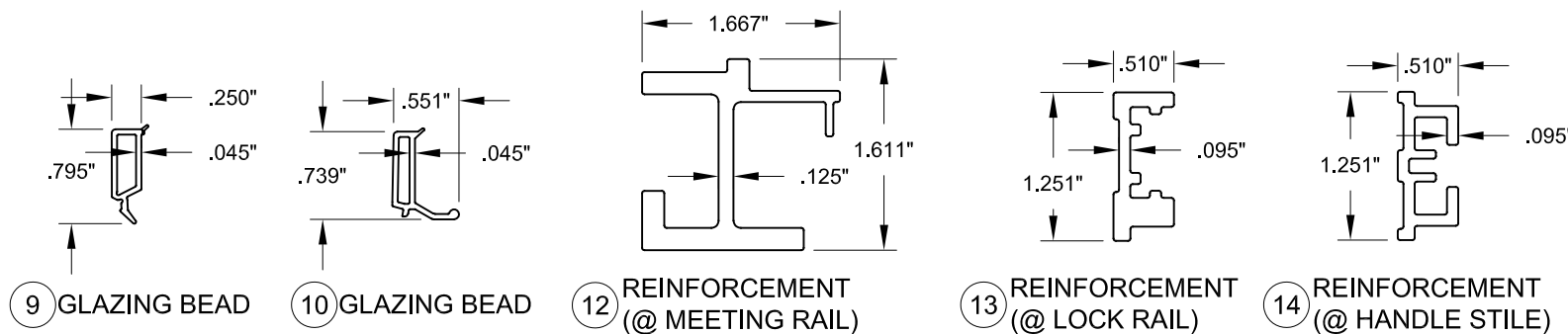
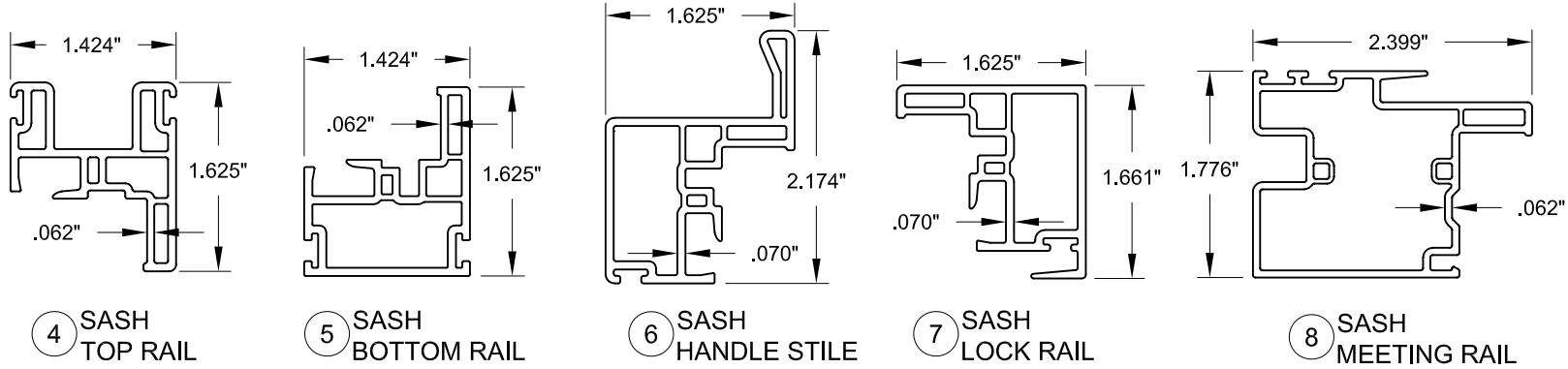
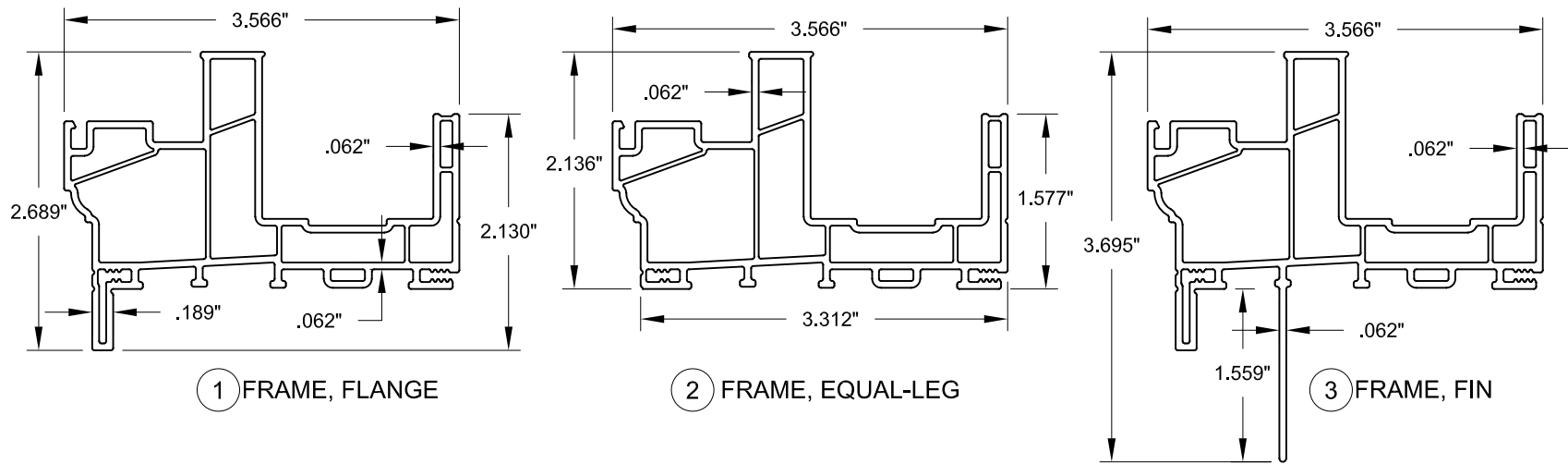
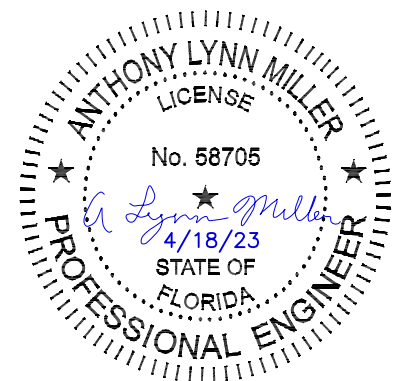
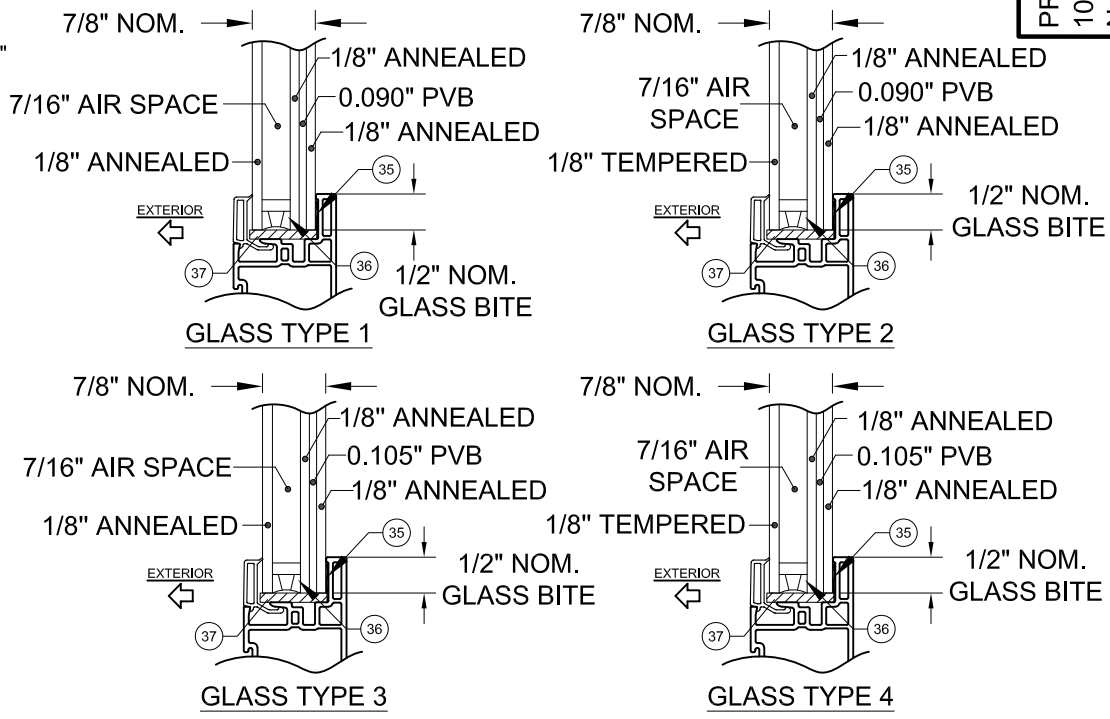


TABLE 6:

BILL OF MATERIALS			
ITEM #	PART #	DESCRIPTION	MATERIAL
1		Frame, Flange	PVC
2	9439	Frame, Equal-Leg	PVC
3		Frame, Fin	PVC
4	9478	Sash Top Rail	PVC
5	9424	Sash Bottom Rail	PVC
6	9475	Sash Handle Stile	PVC
7	9476	Sash Lock Rail	PVC
8	9477	Sash Meeting Rail	PVC
9	9436	Glazing Bead	PVC
10	9425	Glazing Bead	PVC
12	6165	Reinforcement @ Meeting Rail	6063-T6
13	6163	Reinforcement @ Lock Rail	6063-T6
14	6166	Reinforcement @ Handle Stile	6063-T6
15	6162	Anti-Lift Rail	6063-T6
16	6161	Roller Track	6063-T6
17	6158	Sill Riser	6063-T6
20	8097	Lock	
22	8302	Keeper	
24	8153	Roller Assm.	
25	8223	Weep Cover	Composite
26	4007	Weatherstrip, .270" x .250" Polyfin	
30	1003	Screw, #6 x 1/2" PFH	Steel
31	1007	Screw, #6 x 1-1/4" PFH	Steel
32	1012	Screw, #6 x 3/4" PFH	Steel
33	1015	Screw, #8 x 1/2" PTRUSS	Steel
34	1067	Screw, #6 x 3/8" PPH	Steel
35		RGS7700, Sika 552, Dow 791/983 Backbedding	
36		IG Spacer	varies
37		Setting Block	varies
40	6244	Screen	Nylon

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REVISION:	DATE:					
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BY: LOGAN YODER						
DRAWING #: HR910V-FPA-LM						
SHEET: 6 OF 6						